

AMENDMENTS TO THE CLAIMS (CLEAN)

Claim 1 (three times amended). A composition comprising an alkylating reagent having a haloketone or alpha haloaldehyde functional group said alkylating reagent having its carbonyl group of the haloketone or alpha haloaldehyde functional group derivatized with a protected functional group wherein said protected functional group renders the alkylating agent, when under physiological conditions, unreactive to a nucleophilic or sulfhydryl group and reactive to a nucleophilic or sulfhydryl group, when under physiological conditions, by action of an enzyme on the protected functional group.

Claim 19 (three times amended). A kit for use in a method for detecting and determining the amount of homocysteine in a sample, comprising in a packaged combination: a first reagent comprising an alkylating reagent having a haloketone or alpha haloaldehyde functional group, the carbonyl of said haloketone or alpha haloaldehyde functional group derivatized with a protected functional group said protected functional group capable of reacting with the sulfhydryl group of homocysteine to form modified homocysteine when said protected functional group is deprotected, a second reagent comprising an activating reagent capable of deprotecting said alkylating reagent by removal of the protected functional group, and a third reagent capable of specifically binding to said modified homocysteine, each in an amount sufficient to conduct at least one assay.

Claim 32 (twice amended). A method of determining the amount of homocysteine in a sample suspected of containing said homocysteine, comprising the steps of :

- (a) bringing together in an aqueous medium:
 - (1) said sample,
 - (2) a first reagent comprising an alkylating reagent having a halo ketone or alpha haloaldehyde functional group, the carbonyl of said halo ketone or alpha haloaldehyde functional group derivatized with a protected functional group capable of being activated to chemically modify the sulfhydryl groups of homocysteine to form modified homocysteine, and
 - (3) a second reagent comprising an antibody capable of specifically binding to said modified homocysteine to form an immunocomplex; and
 - (4) a third reagent capable of activating said protected alkylating reagent.
- (b) measuring the amount of said immunocomplex, the amount thereof being related to the amount of homocysteine in said sample.

Claim 44 (twice amended). A method of determining the amount of homocysteine in a sample, wherein at least a portion of said homocysteine is in the free disulfide form, comprising the steps of:

- (a) preparing an admixture comprising:
 - (1) said sample,
 - (2) a releasing agent to release said homocysteine from the disulfide form,
 - (3) an alkylating reagent having a haloketone or alpha haloaldehyde functional group, the carbonyl of said haloketone or alpha haloaldehyde functional group derivatized with a protected functional group capable of being activated to chemically modify the sulfhydryl groups of homocysteine to form modified homocysteine, and
 - (4) an antibody capable of specifically binding to said modified homocysteine to form an immunocomplex, and
 - (5) an activating reagent capable of deprotecting said protected functional group of said alkylating reagent; and
- (b) examining said medium for the amount of said immunocomplex, the amount thereof being related to the amount of homocysteine in said sample.